

**Amendments To The Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application captioned above.

**Listing Of Claims:**

1. (Previously Presented) A method for the detection of multiple sclerosis comprising:
  - a) providing: i) a first brain tissue sample from a human suspected of having a demyelinating disease, ii) a second brain tissue sample from a human free from the pathological manifestations of a demyelinating disease, and iii) iron binding protein;
  - b) reacting, in vitro, said first and second brain tissue samples with said iron binding protein; and
  - c) comparing the degree of binding of said iron binding protein with said first and second brain tissue samples wherein a difference in said binding confirms the detection of multiple sclerosis in said first tissue sample.
2. (Cancelled Without Prejudice)
3. (Previously Presented) The method of Claim 1, wherein said brain tissue is collected *via* surgical biopsy.
4. (Previously Presented) The method of Claim 1, wherein said iron binding protein is ferritin.
5. (Previously Presented) The method of Claim 4, wherein said ferritin is native.
6. (Previously Presented) The method of Claim 4, wherein said ferritin is recombinant.

7. (Previously Presented) The method of Claim 4, wherein said ferritin is linked to a detectable marker.

8. (Previously Presented) The method of Claim 7, wherein said marker is selected from the group consisting of radioisotope and fluorescent dye.

9. (Previously Presented) The method of Claim 8, wherein said radioisotope is <sup>125</sup>I.

10. (Previously Presented) The method of Claim 1, wherein said measuring is performed with a technique selected from the group of autoradiography and immunofluorescence.

11. (Withdrawn Without Prejudice) A method for the detection of a demyelinating disease comprising:

- a) providing:
  - i) a fluid sample from a human suspected of having a demyelinating disease;
- b) reacting said fluid sample with human ferritin binding protein; and
- c) detecting the binding of antibodies within said fluid sample to said ferritin binding protein.

12. (Withdrawn Without Prejudice) The method of Claim 11, wherein said fluid sample is selected from the group consisting of whole blood, blood serum, blood plasma, cerebral spinal fluid, lymph, and urine.

13. (Withdrawn Without Prejudice) The method of Claim 11, wherein said ferritin binding protein is immobilized prior to said reacting of step (b).

14. (Withdrawn Without Prejudice) The method of Claim 13, wherein said ferritin binding protein is immobilized on a substrate selected from the group consisting of glass, agarose, and plastic.

15. (Withdrawn Without Prejudice) The method of Claim 11, wherein said substrate comprising ferritin binding protein comprises ferritin binding protein operably linked with a resin.

16. (Withdrawn Without Prejudice) A isolated ferritin binding protein having an observed molecular weight of approximately 55 kDa.

17. (Previously Presented) A method for the detection of multiple sclerosis comprising:

- a) providing: i) a first brain tissue sample from a human suspected of having a demyelinating disease, ii) a second brain tissue sample from a human free from the pathological manifestations of a demyelinating disease, and iii) iron binding protein wherein said iron binding protein is linked to a detectable marker;
- b) reacting, in vitro, said first and second brain tissue samples with said iron binding protein; and
- c) comparing the degree of binding of said iron binding protein with said first and second brain tissue samples wherein a difference in said binding confirms the detection of multiple sclerosis in said first tissue sample.

18. (Cancelled Without Prejudice)

19. (Previously Presented) The method of Claim 17, wherein said brain tissue is collected *via* surgical biopsy.

20. (Cancelled Without Prejudice)

21. (Cancelled Without Prejudice)

22. (Cancelled Without Prejudice)

23. (Previously Presented) The method of Claim 17, wherein said marker is selected from the group consisting of radioisotope and florescent dye.

24. (Previously Presented) The method of Claim 23, wherein said radioisotope is  $^{125}\text{I}$ .

25. (Previously Presented) The method of Claim 17, wherein said measuring is performed with a technique selected from the group of autoradiography and immunofluorescence.

26. (New) A method for the detection of multiple sclerosis comprising:

- a) providing:
  - i) a brain tissue sample from a human suspected of having a demyelinating disease and,
  - ii) ferritin;
- b) reacting, *in vitro*, said brain tissue sample with said ferritin; and
- c) evaluating said brain tissue sample for regions of decreased ferritin binding wherein a finding of decreased ferritin binding confirms the detection of multiple sclerosis in said brain tissue sample.

27. (New) A method for the detection of multiple sclerosis comprising:

- a) providing:
  - i) a brain tissue sample, having a periplaque region, from a human suspected of having a demyelinating disease and
  - ii) transferrin;
- b) reacting, *in vitro*, said brain tissue sample with transferrin; and
- c) evaluating said periplaque region for binding with transferrin wherein a finding of transferrin binding, in said periplaque region, confirms the detection of multiple sclerosis in said brain tissue sample.